LARVAE OF *ZENITHICOLA CRASSUS* (NEWMAN) (COLEOPTERA: CLERIDAE) FEEDING ON TERMITES

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Chequered beetles of the exclusively Australian genus *Zenithicola* Spinola may be recognised by their compact build and broad, triangular elytra (Fig. 1). They are attractive insects that are often found on blossom and so have been relatively well collected and recorded but as far as I am aware, nothing has been published concerning their life-histories. It was therefore of special interest to rear adults of *Z. crassus* (Newm.) recently, from larvae found with termites at Cape Pallarenda near Townsville (N. Qld), in July, 1972.

Five of these larvae were discovered in burrows of *Mastotermes darwiniensis* Froggatt, in fallen timber of various kinds and, to judge by their size-range, several instars were present. Although none of the larvae was observed to attack the termites, it seemed likely that the latter formed the natural prey. However, larvae of an undescribed species of Tineidae (Lepidoptera; *det.* I. F. B. Common) were plentiful in the outer layers of the decayed timber and it is possible that these were also attacked.

In culture, the clerid larvae consumed a small colony of a termite (*Cryptotermes* sp. that was also collected in the Townsville district) before forming pupation cells amongst the broken nest-matrix. Unfortunately, two of the smaller larvae died, apparently from injuries received during their extraction from the host's burrows, but two adults of *Z. crassus* emerged in April, 1973. The discarded larval exuviae were readily recovered from the vacated pupation cells and were found to match a full-grown larva that had been preserved.

Description of mature larva of *Zenithicola crassus* (Figs 2a-2c)

Largely pale yellowish-white; protergum and legs light reddish-brown, head darker, mandibles and urogomphi black; whole body covered with long, silky golden brown hairs.

Head strongly sclerotized, trapezoidal, smooth; antennae short, 3-segmented, the second segment bearing a minute vesicle, the terminal segment very small, subulate; membraneous basal articulation of antennae markedly inflated; palpi short, those of the maxillae 4-segmented (including the palpiger); labial palpi 2-segmented; ligula large; only two ocelli on each side. Pronotal tergite well sclerotized but those of the meso- and meta-nota membranous, except for small, twin discal spots; legs strong, with a well marked terminal claw. Abdomen largely membraneous, except for the terminal plate of the ninth segment; urogomphi short and stout, peg-like, heavily sclerotized and rugose, with a well marked dorsal, terminal denticle; pygopod short and stout.

Length: *circa* 13 mm. Head-width: 1.5 mm.

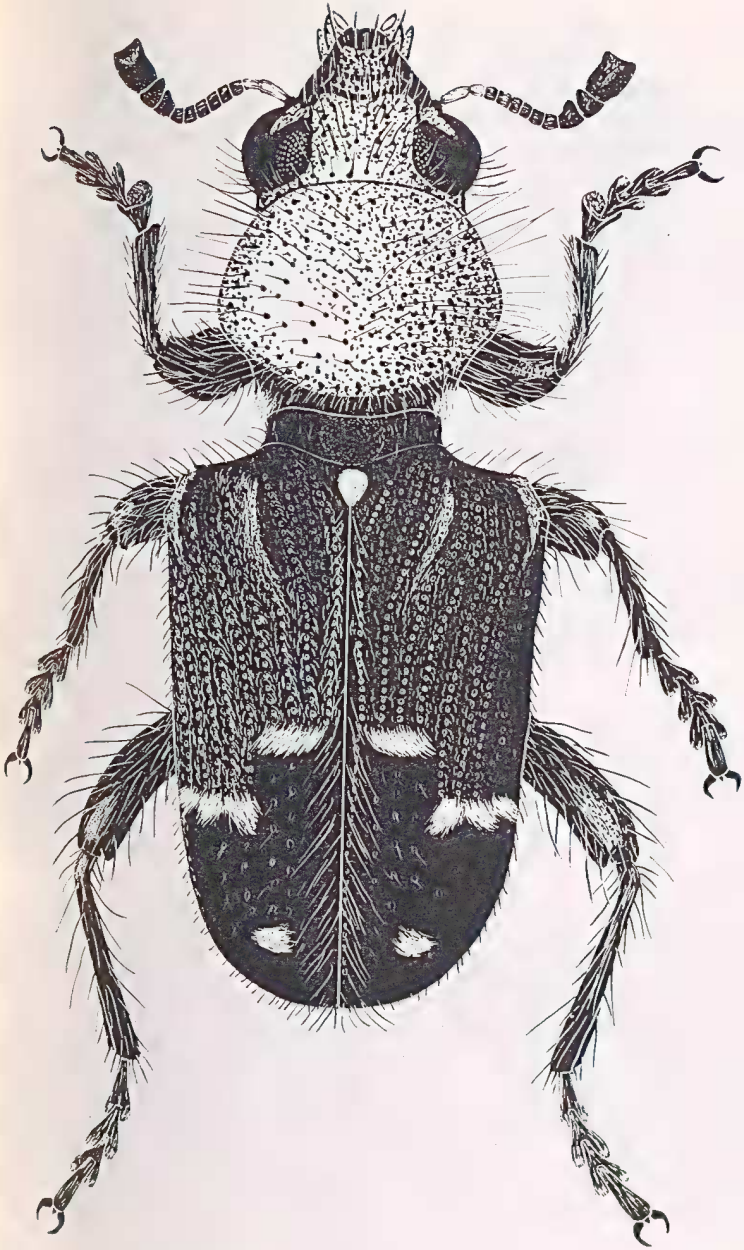
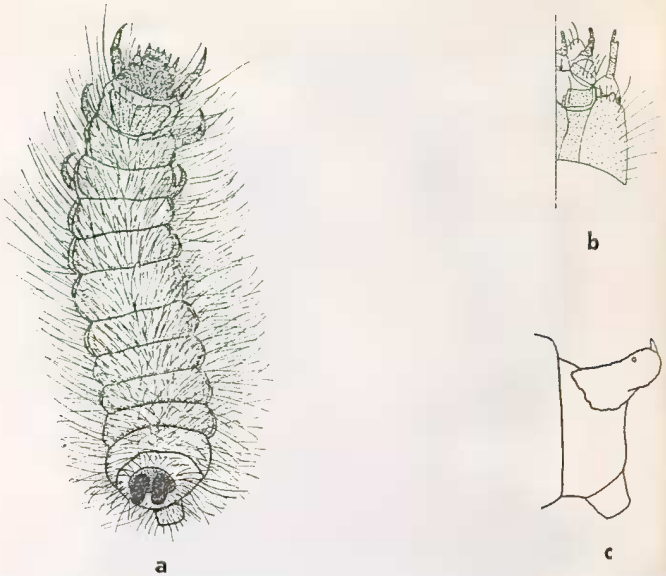


FIGURE 1. *Zenithicola crassus* (Newm.), adult (natural length 10 mm.).



FIGURES 2a-2c. *Zenithicola crassus* (Newm.), larva; (a) mature larva (natural length 13 mm.); (b) enlarged head-capsule (left ventral); (c) enlarged left urogomphus (lateral).

Discussion

The exceptionally long pubescence of these larvae is evidently a protection against counter-attack by the prey and it is interesting to note that a similar development occurs in elaterid larvae of the genus *Pseudotetralobus* Schwarz, which are also known to feed habitually on termites (I have reared a species of this genus from larvae found with *Nasutitermes exitiosus* [Hill]).

Because *Z. crassus* ranges widely into temperate Australia, i.e. well beyond the tropical limits of *Mastotermes*, it cannot be restricted in nature, to a single species of host termite. On the other hand, its larvae have never been detected in any of the many hundreds of colonies of southern mound-building termites that have been surveyed, over the years, by the CSIRO Division of Entomology; nor is any clerid species listed as an inquiline by Lea (1910 & 12). Thus, on present information, it appears likely that *Z. crassus* will prove to be restricted to colonies of wood-nesting termites, and in view of the close morphological resemblances shown by the adult beetles, other species *Zenithicola* may be expected to have similar larval habits.

Reference

Lea, A. M., 1910 & 12. Australian and Tasmanian Coleoptera inhabiting or resorting to the nests of ants, bees and termites. *Proc. R. Soc. Victoria* (n.s.) *23*: 116-230; *25*: 31-78.